

**THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

BARKAN WIRELESS IP HOLDINGS, §  
L.P., §  
§  
v. § CASE NO. 2:19-CV-336-JRG  
§  
SPRINT COMMUNICATIONS CO., L.P., §  
et al. §  
§

**CLAIM CONSTRUCTION  
MEMORANDUM AND ORDER**

Before the Court is the Opening Claim Construction Brief (Dkt. No. 114) filed by Plaintiff Barkan Wireless IP Holdings, L.P. (“Plaintiff” or “Barkan”). Also before the Court is the Responsive Claim Construction Brief (Dkt. No. 129) filed by Defendants Sprint Communications Company, L.P., Sprint Solutions, Inc., Sprint Spectrum L.P., (collectively, “Sprint”), and CommScope Technologies LLC (“CommScope”) (all, collectively, “Defendants”) as well as Plaintiff’s reply (Dkt. No. 131).

The Court held a hearing on September 29, 2020.<sup>1</sup>

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<sup>1</sup> Prior to the claim construction hearing but subsequent to Defendants filing their Responsive Claim Construction Brief, the Court granted an agreed motion to dismiss CommScope pursuant to settlement. (*See* Dkt. No. 135, Sept. 14, 2020 Order; *see also* Dkt. No. 132 (agreed motion).)

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## I. BACKGROUND

Plaintiff alleges infringement of United States Patents No. 8,014,284 (“the ’284 Patent”), 8,559,312 (“the ’312 Patent”), and 9,392,638 (“the ’638 Patent”) (collectively, “the patents-in-suit”). (Dkt. No. 114, Exs. A–C.) Plaintiff submits that “[t]he Patents-in-Suit disclose inventions designed to expand the reach of cellular networks through ‘add-on’ transceiver devices—‘base stations’—that consumers install by connecting them to existing Internet Protocol (‘IP’) based infrastructure in a home or business.” (Dkt. No. 114, at 1.)

The ’284 Patent, titled “Cellular Network System and Method,” issued on September 6, 2011, bears a filing date of June 4, 2001, and bears an earliest priority date of August 12, 1999. The Abstract of the ’284 Patent states:

In a cellular network system, an add-on base station comprising: A. a first channel for connecting to a customer’s phone; B. a second channel for connecting to a network; C. circuits for connecting the customer’s phone to a destination on the network; and D. billing means for collecting a payment for services related to connecting the customer’s phone to the network. The customer’s phone may be connected through a wireless link. A method to establish a link between a caller and an addressee comprising the steps of: A. The caller sends a request to a cellular center requesting to connect to a specific addressee, using a message encrypted with the public key of the center; B. the center decrypts the message, identifies the caller and the addressee; C. the center composes a message for the addressee and encrypts it with the public key of the addressee. The message is then sent to base stations; D. the base station transmits the message “as is” or in a modified form; E. only the designated addressee will be capable to decrypt the message, and will be thus notified of the attempted connection.

The ’312 Patent resulted from a continuation of the ’284 Patent, and the ’638 Patent resulted from a continuation of the ’312 Patent. The patents-in-suit therefore share a common specification. (Dkt. No. 114, at 1.)

The Court previously construed disputed terms in the patents-in-suit in *Barkan Wireless IP Holdings, L.P. v. Samsung Electronics Co., Ltd., et al.*, No. 2:18-CV-28, Dkt. No. 105 (E.D. Tex.

Feb. 7, 2019) (Payne, J.) (“*Samsung*”), *objections overruled*, Dkt. No. 118 (E.D. Tex. Mar. 5, 2019) (Gilstrap, J.).

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties’ arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

## **II. LEGAL PRINCIPLES**

It is understood that “[a] claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Independ. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

“In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) (citation omitted). “In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.” *Id.* (citing 517 U.S. 370).

To ascertain the meaning of claims, courts look to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. The specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. *Id.* A patent’s claims must be read in view of the specification, of which

they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* “One purpose for examining the specification is to determine if the patentee has limited the scope of the claims.” *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee’s invention. Otherwise, there would be no need for claims. *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). Although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court’s claim construction analysis is substantially guided by the Federal Circuit’s decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that “the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313. This principle of patent law flows naturally from the recognition that

inventors are usually persons who are skilled in the field of the invention and that patents are addressed to, and intended to be read by, others skilled in the particular art. *Id.*

Despite the importance of claim terms, *Phillips* made clear that “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of “a fully integrated written instrument.” *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314–17. As the Supreme Court stated long ago, “in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims.” *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

*Phillips*, 415 F.3d at 1316. Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. Like the specification, the prosecution history helps to demonstrate how the inventor and the United States Patent and Trademark Office (“PTO”) understood the patent. *Id.* at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,”

it may lack the clarity of the specification and thus be less useful in claim construction proceedings.

*Id.* Nevertheless, the prosecution history is intrinsic evidence that is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. *Id.*; see *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (noting that “a patentee’s statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation”).

*Phillips* rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Phillips*, 415 F.3d at 1319–24. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.*

*Phillips* does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323–25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

The Supreme Court of the United States has “read [35 U.S.C.] § 112, ¶ 2 to require that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910, 134 S. Ct. 2120, 2129 (2014). “A determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus*, 134 S. Ct. 2120. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

“[P]rior orders in related cases do not bar the Court from conducting additional construction in order to refine earlier claim constructions.” *TQP Dev., LLC v. Intuit Inc.*, No. 2:12-CV-180-WCB, 2014 WL 2810016, at \*6 (E.D. Tex. June 20, 2014) (Bryson, J., sitting by designation).

In general, however, prior claim construction proceedings involving the same patents-in-suit are “entitled to reasoned deference under the broad principals of *stare decisis* and the goals articulated by the Supreme Court in *Markman*, even though *stare decisis* may not be applicable *per se.*” *Maurice Mitchell Innovations, LP v. Intel Corp.*, No. 2:04-CV-450, 2006 WL 1751779, at \*4 (E.D. Tex. June 21, 2006) (Davis, J.); *see TQP*, 2014 WL 2810016, at \*6 (“[P]revious claim constructions in cases involving the same patent are entitled to substantial weight, and the Court has determined that it will not depart from those constructions absent a strong reason for doing so.”); *see also Teva*, 135 S. Ct. at 839–40 (“prior cases will sometimes be binding because of issue preclusion and sometimes will serve as persuasive authority”) (citation omitted); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1329 (Fed. Cir. 2008) (noting “the importance of uniformity

in the treatment of a given patent") (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996)).

### **III. AGREED TERMS**

In their July 21, 2020 Joint Claim Construction and Prehearing Statement (Dkt. No. 110) and their September 15, 2020 P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 139-1), the parties submit the following agreements:

<u>Term</u>	<u>Agreed Construction</u>
“gateway” (‘284 Patent, All Asserted Claims; ‘312 Patent, All Asserted Claims; ‘638 Patent, All Asserted Claims)	“a network device that facilitates communication between two or more networks”
“A gateway to a packet-based data network” (‘312 Patent, Claim 1)	“A gateway” is limiting.
“route data” (‘312 Patent, Claims 14–21, 24–37, 40–54)	“send data toward a selected destination”
“transmit recurrent updates” (‘638 Patent, All Asserted Claims)	“repeatedly send updates”
“recurrently issuing an operating [license/authorization]” (‘638 Patent, All Asserted Claims)	“repeatedly issuing an operating license”

## IV. DISPUTED TERMS

### A. “add-on base station”

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary, plain and ordinary meaning; alternatively, “a portable base station that uses pre-existing network infrastructure to provide additional cellular coverage”	“[a/the] base station that can be added to a public network and can accept payment for use of the base station”

(Dkt. No. 110, Ex. A, at 1; Dkt. No. 114, at 2; Dkt. No. 129, at 1; Dkt. No. 139-1, at 1.) The parties submit that this disputed term appears in all asserted claims of the ’638 Patent. (Dkt. No. 110, Ex. A, at 1; Dkt. No. 139-1, at 1.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “a base station that uses the pre-existing network infrastructure of one network to provide additional coverage for another network.”

#### (1) The Parties’ Positions

Plaintiff argues that Defendants’ proposal is “inconsistent with Defendants’ other proposed constructions and the prior litigation” and “[t]heir proposal fundamentally contradicts what the specification discloses about add-on base stations: that they are cellular devices that use pre-existing network infrastructure.” (Dkt. No. 114, at 2.) Plaintiff urges that “[w]hile certain claims in the ’638 Patent require that data be routed *through* (*i.e.*, using) the ‘public Internet,’ *e.g.*, . . . ’638 Patent Claim 1, nothing requires that the add-on base station itself be ‘added to’ the network.” (*Id.*, at 3.) Plaintiff also argues “[t]he specification states that accepting payments is simply a potential embodiment of the base stations,” and “there are other embodiments disclosed in the specification that do not require the add-on base station to accept payment.” (*Id.*, at 3 & 5.) Further, Plaintiff argues “[t]hat Defendants have agreed to a construction of ‘gateway’ without

their proposed ‘payment requirement’—yet urge that the base station includes such a limitation in the ’638 Patent only—is telling.” (*Id.*, at 6.) “Finally,” Plaintiff argues, “Defendants’ construction should be rejected because it is not limited to cellular networks.” (*Id.* (emphasis omitted).)

Defendants respond that “‘add-on base station’ is a coined term without a plain meaning outside of the context of the Asserted Patents.” (Dkt. No. 129, at 1.) Defendants argue that “the corollary of the allegedly ‘novel’ ‘coordination center’ that *determines and disseminates a pricing policy*, is the allegedly ‘novel’ ‘add-on base station’ claimed in the ’638 Patent that can *accept payment* for use of the base station based on the disseminated pricing.” (*Id.*, at 2–3.) Defendants submit that “[t]here is no inconsistency between the parties’ treatment of the ordinary term ‘gateway’ according to its ordinary meaning versus treatment of the coined term ‘add-on base station’ according to the Federal Circuit’s instructions in construing such terms.” (*Id.*, at 2 n.1.) Defendants also argue that “Barkan cites nothing to support its position that the cellular network operator installing and owning the base station is inconsistent with the add-on base station accepting payment.” (*Id.*, at 5.) Further, Defendants argue that “Barkan’s attempt to import a cellular limitation to the ’638 Patent claims is inconsistent with the plain language of the claims, the specification, and the extrinsic evidence.” (*Id.*) Finally, Defendants urge that “Barkan should not be permitted to sit silently during the claim construction process and hide its intent to argue to the jury that the scope of ‘the Patents-in-Suit’ are limited to ‘expanding cellular networks, not WiFi networks,’ yet contemporaneously fail to identify proposed constructions limited to cellular for *any* claim terms recited in the ’312 or ’284 Patents for the Court to consider at claim construction.” (*Id.*, at 7 (citations omitted).)<sup>2</sup>

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<sup>2</sup> Defendants also submit additional evidence under seal that, upon review, does not significantly affect the Court’s analysis. (Dkt. No. 129, Ex. 3 (BARKAN-SPRINT\_00142850).)

Plaintiff replies that “[a]dd-on base station’ appears in the preamble of the ’638 claims and does not need to be construed because it is defined by the body of the claims.” (Dkt. No. 131, at 1.) Plaintiff also submits that “the phrase ‘public network’ appears nowhere,” and “[t]he specification states that *certain* embodiments might accept payment through the base station, but it is not a requirement.” (*Id.*, at 2.) Plaintiff argues that disclosures cited by Defendants regarding Internet, telephone, and cable networks “refer[] to the add-on base stations using various networks as backhaul to expand *cellular* networks (not the other networks).” (*Id.*, at 3 (citing ’638 Patent at 4:26–27 & 5:25–27).)

At the September 29, 2020 hearing, Defendants reiterated their arguments that “add-on base station” is a coined term and that the specification emphasizes accepting payment as an important feature. Plaintiff urged that whereas Defendants propose to limit “add-on base station” to a particular embodiment, the specification discloses multiple embodiments and accepting payment is merely one possible feature.

## (2) Analysis

Claim 1 of the ’638 Patent, for example, recites (emphasis added):

1. An *add-on base station* comprising:
  - a transceiver adapted to establish a radio-frequency link with a mobile device;
  - a first interface, separate from said transceiver, that is adapted for communication over the public Internet;
  - a controller adapted to:
    - determine current geographical location data for the *add-on base station* using a global positioning system (GPS) device included in the *add-on base station*, wherein the current geographical location data includes location data determined by the GPS device;
    - transmit recurrent updates regarding current operating parameters to a server of a server system via the public Internet, wherein the current operating parameters include current geographical location data and the server system is adapted to identify the base station based on a

unique property stored in a tamper-free unit of the *add-on base station* and to track the *add-on base station* based on the identification; obtain, from a server of the server system accessed via the public Internet, gateway Internet Protocol (IP) address for a remote gateway that includes a first interface to the public Internet and a second interface communicably coupled to a network of a telephone service provider; route, using the gateway IP address, data from the mobile device, over the public Internet, to the remote gateway; and wherein the *add-on base station* has transmission power lower than transmission power of conventional base stations and produces a cell smaller than macrocells of conventional base stations, and wherein the server system is adapted to authorize and de-authorize add on base stations to route data to the remote gateway through the public Internet by recurrently issuing an operating license for the add-on base station.

In *Samsung*, the parties did not present “add-on base station” as a disputed term, so the Court in *Samsung* did not construe this term. In the above-captioned case, Plaintiff argues that “add-on base station” need not be construed because other claim language sufficiently describes the term. (Dkt. No. 131, at 1.) The parties’ briefing, however, demonstrates that the parties have substantive disputes regarding the meaning of this term that should be resolved through claim construction.

The parties present four primary disputes: (a) whether an “add-on base station” must “accept payment for use of the base station” (as proposed by Defendants); (b) whether an “add-on base station” must “provide additional *cellular coverage*” (as proposed by Plaintiff); (c) whether an “add-on base station” must be added to a “*public network*” (as proposed by Defendants); and

(d) whether an “add-on base station” must be “portable” (as proposed by Plaintiff). Construction is appropriate to resolve these disputes.<sup>3</sup>

(a) “accept payment for use of the base station” (proposed by Defendants)

As to whether an add-on base station must accept payment, as a threshold matter Plaintiff argues that Defendants’ proposal is inconsistent with the parties’ agreed-upon construction for “gateway,” which appears in claims of the ’284 Patent and the ’312 Patent. (See Dkt. No. 114, at 5–6.) Upon review of Plaintiff’s arguments and the cited evidence, no inconsistency is apparent.

Turning to the evidence regarding “add-on base station,” Plaintiff does not show that “add-on” in this context has any recognized meaning outside of the patents-in-suit. The Court therefore refers to the specification. *See Phillips*, 415 F.3d at 1316 (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”); *see also Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1357 (Fed. Cir. 2016) (“terms [that] have no plain or established meaning to one of ordinary skill in the art . . . ordinarily cannot be construed broader than the disclosure in the specification”).

The specification refers to accepting payment as an “important” aspect of the present invention:

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<sup>3</sup> Plaintiff submits that “CommScope itself has apparently accepted in IPR that the term ‘add-on base station’ need not be construed.” (Dkt. No. 114, at 2 (citing *id.*, Ex. F, IPR2020-00838, Petition for *Inter Partes* Review, at 12 & 19–23); *see* Dkt. No. 114, at 5 (Plaintiff argues: “Their position is not subtle: they are seeking a broad interpretation in the IPR for invalidity, and the narrowest interpretation possible in this Court to try to evade infringement. CommScope cannot have it both ways.”). Even assuming for the sake of argument that Plaintiff’s characterization of CommScope’s position is correct, Plaintiff does not demonstrate that this gives rise to any estoppel, and this does not warrant setting aside the evidence and arguments demonstrating that a construction is appropriate in the present case.

### Billing

An *important* aspect of the *present invention* is the means for paying to the owner of the add-on base station for his/her services. This provides the incentive for acquiring and operating these base stations.

'638 Patent at 9:54–58 (emphasis added). The Modes for Carrying Out the Invention section of the specification likewise discloses:

The *novel* system includes means to offer an incentive to people, to motivate them to install and operate base stations. These include means for *collecting a payment* for services rendered with the base station.

*Id.* at 5:31–35 (emphasis added).

In the Disclosure of the Invention section of the specification, however, paying a base station is identified as an “example”:

Each novel base station includes means for providing an incentive to the public to acquire and operate them, so as to enhance the cellular network. Using an economic incentive (*for example, payment of a base station* for use of his/her device) will stimulate people to operate these base stations. \* \* \*

According to another aspect of the invention, a payment system is disclosed, that uses digital tokens or prepaid digital documents. Tokens may be downloaded from a center, and the whole process may be made transparent to the user.

*Id.* at 2:50–61 (emphasis added).

The Detailed Description section of the specification discusses an embodiment in which base stations can accept payment:

Thus, the base station includes means for *accepting a payment* and for displaying to the user information relating to the payments received.

\* \* \*

Base stations *receive payment*, and can later redeem the tokens from the cellular center back to money, or receive new tokens for their owner instead, for the owner’s use in his/her communications over their cellular phone.

*Id.* at 9:63–65 & 10:27–30 (emphasis added). This is consistent with Figure 2 of the ’638 Patent, which illustrates “Add-on Base Station” as including a “Billing Unit 55.” *See id.* at 11:3–6.

This example, however, should not be imported into the term “add-on base station.” *See Phillips*, 415 F.3d at 1323. Instead, the above-reproduced disclosures—such as that the “novel system” can “include means for collecting a payment” (*id.* at 5:31–35 (emphasis added))—allow for payment to be accepted through some other part of the system (to whatever extent payment is required), rather than necessarily being accepted through the “add-on base station.” This is consistent with the specification disclosing multiple embodiments. *See id.* at 3:45 (“FIG. 3 details another embodiment of the base station.”); *see also id.* at Fig. 3 (no billing unit illustrated). This is also consistent with disclosure that “[a]dd-on base stations can be installed and owned by the cellular network operator.” *Id.* at 7:23–24. Further, as Plaintiff points out in its reply brief (Dkt. No. 131, at 2), no claim of the ’638 Patent recites payment or billing.

As to the Court’s finding in *Samsung* that a “coordination center” “determines and disseminates a price policy” (*Samsung* at 24), Defendants fail to demonstrate that an “add-on base station” that accepts payment is a necessary “corollary” to a “coordination center” that determines and disseminates a price policy. (Dkt. No. 129, at 2.)

The Court therefore rejects Defendants’ proposal that an “add-on base station” must “accept payment for use of the base station.”

(b) “provide additional cellular coverage” (proposed by Plaintiff)

As to whether an “add-on base station” must “provide additional *cellular* coverage” (as proposed by Plaintiff), the Field of the Invention and Background of the Invention sections of the patent refer to cellular networks:

The invention concerns systems for creating *cellular* distributed networks and methods for controlling their installation and operation. The invention concerns in

particular *add-on base stations* that allow the creation or *expansion of such networks*.

\* \* \*

It is an objective of the present invention to facilitate the installation and expansion of distributed *cellular* networks, especially in highly populated urban areas.

'638 Patent at 1:20–24 & 1:61–63 (emphasis added).

Yet, the specification discloses as follows when referring to “a novel base station” ('638 Patent at 10:60):

The basic function of the station is to connect a first channel 51 with a second channel 52. Either channel may be *wired or wireless*, using *various technologies*.

*Id.* at 10:62–64 (emphasis added); *see id.* at 5:19–24 (“The above detailed structure and method may be used for other networks as well. These may include, among others, wireless links, satellite links, cable TV links, fiber-optics or a combination thereof.”). This disclosure weighs against Plaintiff’s argument that an add-on base station is limited to expanding the coverage of only cellular networks.

The specification provides further context for understanding “add-on” as referring to expanding coverage of one network by interfacing with another, pre-existing network:

It is assumed that all new base stations are connected to an Internet, since it is in widespread use. A user may connect to an Internet in various ways, for example using a telephone line, a cable TV channel, wireless links etc.

Possible Internet links include the package delivery link and the TCP. Voice links usually use the former link, since in the latter there may be a delay.

In a highly populated area, where there are many phone lines and a numerous population, there is a great probability that many people will buy the novel base stations to generate many new wireless cells.

Thus, new *base station 41* adds a *new wireless cell* in a location where there is available a link to the telephone network 23 (a *phone line*).

*Base station 42* illustrates another type of network enhancement. It *connects between an Internet 24 and the telephone net 23*. This allows a remote caller (not shown) to place a call to a phone in the neighborhood of base station 42: That remote caller connects base station 42 over the Internet 24, and requires a connection to a phone close to that base station.

This achieves a lower cost communication link, since it comprises an Internet link that is low cost, and a local phone call from base station 42. It avoids the high cost of long distance phone calls. This type of base station is useful in the implementation of the present invention.

New *base station 43* illustrates yet another type of network enhancement. It generates a *wireless cell that is directly connected to an Internet 24*.

Thus, new base station 43 adds a new wireless cell in a location where there is available a link to an Internet network 24.

'638 Patent at 4:54–5:18 (emphasis added).

The specification thus discloses that whereas, in some aspects, add-on base stations can provide additional wireless cells, add-on base stations (such as above-described “base station 42”) can also be used to expand a telephone network by interfacing with the Internet (thus potentially allowing for the use of a local call instead of a long-distance call). *See id.; see also id.* at Figs. 1 & 6. This reinforces that providing additional “cellular” coverage, as proposed by Plaintiff, is not a limitation of the term “add-on base station.” Although some disclosures refer to base station 42 (among others) as being “additions to,” or “to enhance,” a cellular network,<sup>4</sup> and although Figures 1 and 6 of the '638 Patent illustrate base station 42 with an antenna, these disclosures are not inconsistent with the above-reproduced disclosure that base station 42 “connects between an Internet 24 and the telephone net 23” rather than necessarily providing additional cellular coverage. And, of course, “patent coverage is not necessarily limited to inventions that look like

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<sup>4</sup> *See* '638 Patent at 4:26–27 (“The add-on base stations 41, 42 and 43 illustrate three types of additions to a cellular network.”); *see also id.* at 5:25–27 (“Thus, new base stations 41, 42 and 43 allow to use the existing telecommunication infrastructure in developed areas, to enhance the cellular network.”).

the ones in the figures.” *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007).

Other claim language addresses, for example, wireless capabilities of the add-on base station, such as the recital in above-reproduced Claim 1 of the ’638 Patent that the add-on base station includes “a transceiver adapted to establish a radio-frequency link with a mobile device.” Plaintiff’s reliance on disclosures regarding expanding cellular networks do not warrant imposing such a limitation on the term “add-on base station” itself. ’638 Patent at 1:20–24 (reproduced above), 2:14–18 (“It is an object of the present invention to provide a system and method that facilitate the installation of distributed cellular networks, especially in developed and highly populated urban areas, using a structure and method implemented with an add-on base station.”) & 2:25–26 (“complement a cellular network”).

Moreover, several dependent claims explicitly recite that “the add-on base station expands coverage of a *cellular* network.” ’638 Patent, Cls. 6, 14, 24 & 34 (emphasis added). For example, Claim 6 of the ’638 Patent recites (emphasis added):

6. The add-on base station of claim 1, wherein *the add-on base station expands coverage of a cellular network* and is owned and installed by an individual or entity, separate and distinct from the telephone service provider, with access to the public Internet.

These dependent claims recite additional limitations, not just that “the add-on base station expands coverage of a cellular network.” The doctrine of claim differentiation is therefore of limited weight. *See Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed. Cir. 2001) (“Claim differentiation, while often argued to be controlling when it does not apply, is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, *and that limitation is the only meaningful difference between the two claims.*”) (emphasis added). Also, as Plaintiff argues in its reply brief (Dkt.

No. 131, at 3), whereas the recital of “expands coverage” might be read as referring to expanding geographic coverage area, add-on base stations could be used to increase capacity within an existing coverage area. *See* ’638 Patent at 1:40–42 (“As more users are to be served in a specific area, the cells are made smaller, and more base stations have to be installed.”).

Nonetheless, the explicit recital of “expands coverage of a cellular network” in certain dependent claims weighs at least somewhat further against limiting the term “add-on base station” to providing additional cellular coverage. *See Phillips*, 415 F.3d at 1314 (“Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.”).

Based on all of the foregoing, the Court rejects Plaintiff’s proposal of requiring providing additional “cellular” coverage.

(c) “can be added to a public network” (proposed by Defendants)

Above-reproduced Claim 1 of the ’638 Patent, for example, recites interacting with “the public Internet,” but Defendants fail to support their proposal of limiting the term “add-on base stations” to being added to a “public” network. (*See* Dkt. No. 129, at 1–8.) The above-discussed disclosures, such as regarding “providing an incentive to the *public* to acquire and operate” base stations (’638 Patent at 2:50–61 (emphasis added)), is insufficient to limit add-on base stations to being added to a public network.

(d) “portable” (proposed by Plaintiff)

As Plaintiff emphasizes, the specification discloses that add-on base stations are preferably of a size similar to a cordless telephone base:

Preferably, the size and shape of an add-on base station is similar to that of a cordless telephone base. This may achieve an easy to use device, whose operation is familiar to the user.

'638 Patent at 7:30–32; *see id.* at 11:59–61 (“The size of the base station can be not larger than a regular cellular phone.”). The specification provides further context by disclosing an example in which add-on base stations may be installed in vehicles:

[] The add-on base stations may be installed in various vehicles. This may achieve cellular coverage in areas that may otherwise not be covered. The device may include means to install in a vehicle, including use of an installed antenna and the power source in the car.

Thus, parked cars may be used as relay stations, with a cellular phone installed in the car acting as an add-on base station.

*Id.* at 16:5–12; *see id.* at 16:14–19 (“mobile base stations”). Plaintiff contrasts this with the disclosed problem that “[c]urrently, it is relatively expensive, time consuming and difficult to install cellular networks.” *Id.* at 1:28–29.

The disclosures cited by Plaintiff regarding the potential size of an add-on base station, however, relate to specific characteristics of particular implementations, and those specific characteristics should not be imported into the meaning of “add-on base station.” *See Phillips*, 415 F.3d at 1323 (“although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments”). Further, Plaintiff’s proposal of “portable” would tend to confuse rather than clarify the scope of the claims. For example, above-reproduced Claim 1 of the '638 Patent already draws a comparison with conventional base stations, reciting that “the add-on base station has transmission power lower than transmission power of conventional base stations and produces a cell smaller than macrocells of conventional base stations.”

At the September 29, 2020 hearing, Plaintiff argued that disclosure that “[t]he location of base station can be made known to the cellular center 3,” such as by using GPS information, demonstrates that the location of an “add-on base station” is not fixed. *See* '638 Patent at 13:54–

14:4. This disclosure, however, does not demonstrate portability. Rather, as the specification explains, “[t]he location of each such unit is not known a priori; its very existence has to be announced to the network.” *Id.* at 2:46–47.

Based on all of the foregoing, the Court rejects Plaintiff’s proposal of requiring “add-on base stations” to be “portable.”

(e) Construction

The Court’s construction should account for the above-discussed findings regarding the parties’ respective proposals. Further, Plaintiff’s proposal of referring to using “pre-existing” networks is consistent with the above-reproduced disclosures as well as additional disclosures:

An existing network may include, for example, an IP network, such as the Internet, or Internet over cables, or a wired telephone network.

\* \* \*

The above description refers to communications systems as known in the art. The novel approach allows to expand the above network, for example with the addition of new base stations 41, 42 and 43.

’638 Patent at 4:9–11 & 4:21–25; *see id.* at 3:4–6 (“the object is basically accomplished by using the existing telecommunications infrastructure that is available in developed areas”), 5:19–21 (“The system uses the existing infrastructure, for example cable TV, Internet connections and phone networks to provide additional wireless coverage.”), 5:38–40 (“[T]he new network is based on the existing infrastructure, for example a telephone network, a wireless network, Internet or a combination thereof.”) & 16:60 (“[T]he system is using existing infrastructure.”).

The Court therefore hereby construes “**add-on base station**” to mean “**a base station that uses the pre-existing network infrastructure of one network to provide additional coverage for another network.**”

## B. “coordination center”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“center that provides information over the packet-based data network required for making a call” <sup>5</sup>	“center that provides information required for making a call, but which does not perform the actual call switching, and that determines and disseminates a price policy” <sup>6</sup>

(Dkt. No. 110, Ex. A, at 7; Dkt. No. 114, at 7–8; Dkt. No. 129, at 19; Dkt. No. 139-1, at 5.) The parties submitted identifications of claims in which this disputed term appears (Dkt. No. 110, Ex. A, at 7; Dkt. No. 139-1, at 5), but at the September 29, 2020 hearing, Defendants identified an error and submitted that this disputed term appears in all asserted claims of the ’284 Patent and in Claims 2, 4–21, and 23–55 of the ’312 Patent, and Plaintiff did not contend otherwise.

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “center that does not participate in the actual call routing but that provides information required for making a call and that determines and disseminates a price policy.”

### (1) The Parties’ Positions

Plaintiff argues that the *Samsung* construction, which included “determines and disseminates a price policy,” “imports a limitation relating to a *different* cellular center in the patents—the ‘consideration-related policy database’—into the ‘coordination center’ server,” and “[t]he patents are clear that no single server is required to perform both functions.” (Dkt. No. 114,

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<sup>5</sup> Plaintiff previously proposed: “center that provides information over the packet-based data network required for making a call, but which does not perform the actual call switching.” (Dkt. No. 110, Ex. A, at 7.)

<sup>6</sup> Defendants previously proposed the *Samsung* construction: “center that provides information required for making a call and that determines and disseminates a price policy.” (Dkt. No. 110, Ex. A, at 7.)

at 8.) In particular, Plaintiff urges that “[r]eading the ‘billing and pricing’ element of the consideration-related policy database into the ‘coordination center’ would conflict with the doctrine of claim differentiation.” (*Id.*, at 11.)

Defendants respond that shortly before Defendants filed their responsive claim construction brief, “Barkan proposed a second amendment to its infringement contentions, adding new infringement theories for the ‘coordination center’ limitation that directly violate this Court’s analysis [in *Samsung*], and the clear disclosures in the patent specifications, that the coordination center ‘does not participate in the call routing.’” (Dkt. No. 129, at 19.) Defendants also argue that “[t]here is no discussion of one entity that provides information necessary to make calls and a different entity that determines and disseminates pricing policies.” (*Id.*, at 22.) Defendants further submit that Plaintiff’s statements to the European Patent Office confirm that the *Samsung* construction is correct. (*Id.*)

Plaintiff replies that “Defendants cite nothing in the patents that elevates a ‘price policy’ over the other optional features the coordination center may perform.” (Dkt. No. 131, at 4.) Plaintiff also argues that “[t]he specification is replete with references to ‘multiple’ centers being used to perform different potential functions of the coordination center.” (*Id.* (citing ’284 Patent at 6:16–17, 6:21–22 & 6:26–27).) Finally, Plaintiff argues that “[i]n *Samsung*, [the d]efendants never argued for a ‘call switching’ limitation (and the Court never imposed one) because the claims do not mention it.” (Dkt. No. 131, at 5.)

At the September 29, 2020 hearing, Plaintiff reiterated its arguments against the *Samsung* finding as to “determines and disseminates a price policy.” Defendants responded that they agree with the Court’s preliminary construction in its entirety.

## (2) Analysis

In *Samsung*, the Court construed “coordination center” to mean “center that provides information required for making a call and that determines and disseminates a price policy.” *Samsung* at 18–24. Plaintiff argues that *Samsung* improperly imported a limitation of “determines and disseminates a price policy” that relates to the “consideration-related policy database,” not the “coordination center.” (Dkt. No. 114, at 8.) Defendants argue that, in the present case, Plaintiff’s infringement contentions require modifying the *Samsung* construction to include the disclosure, cited in *Samsung*, that a coordination center “does not participate in the actual call routing.” (See Dkt. No. 129, at 19–20.) *Samsung* reviewed disclosures in the specification, such as the following:

A novel approach uses a cellular coordination center 3 that does not perform the actual call switching. Rather, the new center 3 just provides the information required for making a call. Center 3 (or a network of such centers) stores information regarding the various base stations, their location and coverage, availability and connections. When a user places a call, he demands information from center 3. Center 3 provides the required information for placing a call, including a base station close to the desired destination and more, as detailed below.

After providing the information to the caller, center 3 does not participate in the actual call routing; rather, this is performed by the caller, using the existing network infrastructure.

’284 Patent at 6:51–64; *see id.* at 3:11–14 (in Summary of the Invention); *see also Samsung* at 22.

*Samsung* also considered dependent claims that Plaintiff cited in *Samsung* (*see Samsung* at 20–21) and that Plaintiff re-urges in the present case. (See Dkt. No. 114, at 9–11.) Claims 1 and 4 of the ’284 Patent, for example, recite (emphasis added):

1. A gateway to a packet-based data network comprising:
  - a transceiver adapted to establish a radio-frequency link with a mobile device;
  - a first interface adapted to facilitate data flow between the mobile device and the packet-based data network; and
  - a controller adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data

network from a *coordination center*, which center is connected to the data network through a second interface.

\* \* \*

4. The gateway according to claim 1, wherein said controller is further adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from a *consideration related policy database*.

Here as in *Samsung*, Plaintiff's proposed construction for “consideration-related policy database” refers not to determining and disseminating a price policy but rather to “*storing* information related to billing or pricing policies.” (Dkt. No. 114, at 11.) Plaintiff's argument that “*storing* billing data is a necessary predicate to disseminating it” is unpersuasive. (*Id.*, at 10.) Plaintiff therefore fails to demonstrate that “[r]eading the ‘billing and pricing’ element of the consideration-related policy database into the ‘coordination center’ would conflict with the doctrine of claim differentiation.” (*Id.*, at 11; *see id.*, at 9 (citing dependent Claim 4 of the '284 Patent).)

*Samsung* also considered disclosures regarding “cellular coordination center 3” (*see* '284 Patent at 6:51; *see also id.* at 7:42 (“[t]he cellular center 3”) and found:

Because “coordination center” has no established meaning in the relevant art, and because the patentee emphasized “price setting” and “price policy” as features of the “novel” coordination center, the Court’s construction of “coordination center” should include this feature as Defendants have proposed.

*Samsung* at 23–24; *see id.* at 20–24. In particular, *Samsung* cited the following disclosure:

[] *The cellular center is responsible for the price policy.* It determines and publishes the cost for each operation over the network. The updated information may be transferred over an Internet, or may be available to add-on base stations.

The information may be dispersed between units in the network. In each transaction, the parties thereto will check the date of each price list. The more updated price list will be transferred to the other party. Thus, the new price list or policy will gradually expand throughout the network.

'284 Patent at 7:56–64 (emphasis added); *see id.* at 6:16–27 (“[t]he novel centers are also responsible for price setting”; “disseminated as digital documents”). Reading the specification as a whole, this disclosure regarding “[t]he cellular center” pertains to “cellular coordination center 3.” *See id.* at 6:51; *see also id.* at 7:27–28 & 7:42 (“[t]he cellular center 3”). The term “consideration-related policy database,” by contrast, appears only in the claims, not in the specification, and Plaintiff identifies no disclosure of any consideration-related policy “center.”

The Court therefore rejects Plaintiff’s argument that the *Samsung* construction “imports a limitation relating to a *different* cellular center in the patents—the ‘consideration-related policy database’—into the ‘coordination center’ server.” (Dkt. No. 114, at 8.)

Plaintiff also cites disclosure that “a plurality of centers may be used”:

There is a need for a coordination center that issues information relating to completing a call as required. Alternately, a plurality of centers may be used. These centers only provide information prior to a call, and do not take part in the actual link being formed. Thus, simpler and lower cost centers are required.

'284 Patent at 6:7–12; *see id.* at 6:54–56 (“Center 3 (or a network of such centers) stores information regarding the various base stations, their location and coverage, availability and connections.”). A fair reading of this disclosure is that multiple “coordination centers” could be used. Plaintiff identifies no disclosure that a “coordination center” could itself be composed of multiple distinct centers, and it is unclear how such a composition would support Plaintiff’s proposed interpretation. To the extent Plaintiff argues this disclosure implies that the disclosed functionality of a coordination center could instead be performed by other types of “centers,” Plaintiff fails to adequately support such an interpretation. Plaintiff’s reliance on this disclosure is therefore unavailing.

Finally, *Samsung* considered and rejected Plaintiff's proposal of "over a packet-based network" based on the context provided by other claim language (*see Samsung* at 20), and Plaintiff does not justify departing from that finding. (*See* Dkt. No. 114, at 7–11.)

Plaintiff also cites prosecution history of the '284 Patent in which, among other amendments, the patentee removed the term "consideration-related policy database" from application claim 40 (which issued as above-reproduced Claim 1) and added a new dependent claim referring to "information received over the data network from a consideration-related policy database." (Dkt. No. 114, Ex. H, Dec. 16, 2010 Amendment, at 2–5 (BARKAN-SPRINT\_0000325–28) (pp. 85–88 of 96 of Ex. H).) Plaintiff argues that "[t]he concept of the consideration-related policy database—regarding the use of pricing and billing policies—was then included only in dependent claims, suggesting that it is not part of the 'coordination center' claims that issued." (Dkt. No. 114, at 11.) First, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Phillips*, 415 F.3d at 1317. Plaintiff identifies no explanation in this prosecution history that would support Plaintiff's interpretation, and the Court finds none. Second, Plaintiff's argument again is at odds with Plaintiff's proposal that the "consideration-related policy database" means "a database storing information related to billing or pricing policies." (Dkt. No. 114, at 11 (emphasis added).) The prosecution history cited by Plaintiff therefore does not outweigh the above-discussed disclosures in the specification.<sup>7</sup>

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<sup>7</sup> Here as in *Samsung*, the Court need not reach the issue of whether the European patent prosecution history cited by Defendants is applicable here. (*See* Dkt. No. 129, at 22; *see also Samsung* at 24 n.10.)

The Court therefore hereby construes “**coordination center**” to mean “**center that does not participate in the actual call routing but that provides information required for making a call and that determines and disseminates a price policy.**”

### C. “consideration-related policy database”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“a database storing information related to billing or pricing policies”	[Court’s prior construction]: “a database on the Internet that stores information related to billing or pricing policies”

(Dkt. No. 110, Ex. A, at 10; Dkt. No. 114, at 11; Dkt. No. 129, at 23; Dkt. No. 139-1, at 5.) The parties submit that this disputed term appears in Claims 4, 11, and 19 of the ’284 Patent. (Dkt. No. 110, Ex. A, at 10; Dkt. No. 139-1, at 5.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “a database on the Internet that stores information related to billing or pricing policies.”

#### (1) The Parties’ Positions

Plaintiff argues that the *Samsung* construction, which included “on the Internet,” is not supported by the prosecution history cited by *Samsung*, and “[u]nder the doctrine of claim differentiation, Barkan also respectfully submits that the presence of a requirement of being connected to the data network in ’284 Patent Claims 11 and 19—but not ’284 Patent Claim 4—necessitates the conclusion that the consideration-related policy database itself does not include that limitation.” (Dkt. No. 114, at 11–12.)

Defendants respond that, as the Court found in *Samsung*: “During prosecution of the application that led to the ’284 Patent, in order to overcome a prior art rejection, applicant clearly and unmistakably stated the ‘claimed’ consideration-related policy database is ‘located on the

Internet.’’ (Dkt. No. 129, at 23.) Defendants urge that ‘‘Barkan provides no justification for departing from the Court’s prior construction.’’ (*Id.*, at 24.)

Plaintiff replies that ‘‘Defendants point to nothing in the claims or specification requiring (or even implying) that the consideration-related policy database be on the Internet,’’ and ‘‘[t]he [prosecution history] statement here that ‘for example’ the database can be located on the Internet fails to meet th[e] high threshold of ‘clear and unmistakable.’’’ (Dkt. No. 131, at 6 (quoting *Baxalta, Inc. v. Genentech, Inc.*, --- F.3d ----, 2020 WL 5048435, at \*5 (Fed. Cir. Aug. 27, 2020))).

At the September 29, 2020 hearing, the parties submitted this disputed term for construction based on the briefing, without oral argument.

## (2) Analysis

*Samsung* construed ‘‘consideration-related policy database’’ as ‘‘a database on the Internet that stores information related to billing or pricing policies.’’ *See Samsung* at 24–29. Plaintiff fails to sufficiently justify departing from the analysis and construction set forth in *Samsung*. (*See* Dkt. No. 114, at 11–12.) In particular, Plaintiff fails to justify setting aside *Samsung*’s finding of definitive statements in the prosecution history that the consideration-related policy database must be ‘‘on the Internet.’’ *Samsung* at 27–29. The subsequent *Baxalta* case cited in Plaintiff’s reply brief does not warrant setting aside the *Samsung* finding regarding ‘‘on the Internet’’ because the *Omega Engineering* case cited by *Samsung* sets forth the same ‘‘clear and unmistakable’’ standard for ‘‘alleged disavowing actions or statements made during prosecution’’ as is set forth in *Baxalta*. *Compare Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003), with *Baxalta*, --- F.3d ----, 2020 WL 5048435, at \*5.

Plaintiff also asserts the doctrine of claim differentiation as between dependent Claim 4 (which depends from independent Claim 1) and dependent Claims 11 and 19 (which depend from

independent Claims 2 and 3, respectively), pointing out that the dependent claims add a limitation of being connected to a data network. (Dkt. No. 114, at 12.)

First, dependent Claims 11 and 19 of the '284 Patent recite various limitations, so the doctrine of claim differentiation is of limited weight. *See Wenger*, 239 F.3d at 1233 (“Claim differentiation, while often argued to be controlling when it does not apply, is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, *and that limitation is the only meaningful difference between the two claims.*”) (emphasis added).

Second, dependent Claims 11 and 19 do not recite the Internet but rather recite an interface, namely that “a consideration-related policy database [is] connected to the data network through a third interface.”

Third, even accepting Plaintiff’s view of claim differentiation here, “the doctrine of claim differentiation creates only a presumption that each claim in a patent has a different scope,” and “that presumption is overcome by [the patentee’s] disclaimer of subject matter in the prosecution history.” *Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1115–16 (Fed. Cir. 2002). The Court reached this same conclusion in the *Samsung* case. *See Barkan Wireless IP Holdings, L.P. v. Samsung Elecs. Co., Ltd., et al.*, No. 2:18-CV-28, Dkt. No. 118, at 1–2 (E.D. Tex. Mar. 5, 2019) (overruling objections).

The Court therefore hereby construes “**consideration-related policy database**” to mean “**a database on the Internet that stores information related to billing or pricing policies.**”

**D. “connection regulator adapted to facilitate data flow”**

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“controller adapted to control the rate or quantity of data flowing between the mobile device and the packet-based data network”	“a device (i) that regulates the connection between the mobile device and the packet-based data network, and (ii) which is adapted to facilitate the data flow between those devices”

(Dkt. No. 110, Ex. A, at 13; Dkt. No. 114, at 12; Dkt. No. 129, at 8; Dkt. No. 139-1, at 2.) The parties submit that this disputed term appears in all asserted claims of the ’312 Patent. (Dkt. No. 110, Ex. A, at 13; Dkt. No. 139-1, at 2.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “controller adapted to facilitate data flow.”

During the September 29, 2020 hearing, Plaintiff alternatively proposed construing this term to mean “controller adapted to facilitate and regulate data flow,” and Defendants agreed to Plaintiff’s alternative proposal.

The Court therefore hereby construes **“connection regulator adapted to facilitate data flow”** to mean **“controller adapted to facilitate and regulate data flow.”**

**E. “a controller adapted to regulate data flow”**

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“a controller that controls the rate or quantity of data flowing through the gateway”	Plain and ordinary meaning

(Dkt. No. 110, Ex. A, at 22; Dkt. No. 114, at 15; Dkt. No. 129, at 24; Dkt. No. 139-1, at 7.) The parties submit that this term appears in all asserted claims of the ’284 Patent. (Dkt. No. 110, Ex. A, at 22; Dkt. No. 139-1, at 7.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “Plain and ordinary meaning.”

(1) The Parties' Positions

Plaintiff submits that it “suggests a modification of th[e *Samsung*] construction to more precisely address the implication of ‘regulate’ in this term.” (Dkt. No. 114, at 15.) Plaintiff also cites the specification, the prosecution history, and extrinsic evidence to argue that “the regulation concerns controlling or changing the rate at which data flows between the mobile device and the packet-based data network.” (*Id.*, at 16–17.)

Defendants respond that the Court should adopt the *Samsung* construction, and “there is no basis for rewriting this claim term to require that the ‘controller’ must control the ‘rate or quantity of a data flow’” as proposed by Plaintiff. (Dkt. No. 129, at 24–25.)

Plaintiff replies that “the term ‘regulate’ has a well understood meaning, which is tied to controlling the rate or quantity of a parameter.” (Dkt. No. 131, at 7.) Plaintiff also submits that “the specification provides examples of how the rate or quantity of data flow through the gateway may be regulated—for example, by limiting the flow of data if the mobile device or gateway is not authorized to access the network.” (*Id.*)

At the September 29, 2020 hearing, the parties submitted this disputed term for construction based on the briefing, without oral argument.

(2) Analysis

Claim 1 of the '284 Patent, for example, recites (emphasis added):

1. A gateway to a packet-based data network comprising:
  - a transceiver adapted to establish a radio-frequency link with a mobile device;
  - a first interface adapted to facilitate data flow between the mobile device and the packet-based data network; and
  - a *controller adapted to regulate data flow* between the mobile device and the data network based, at least partially, on information received over the data network from a coordination center, which center is connected to the data network through a second interface.

*Samsung* construed “a controller adapted to regulate data flow” to have its plain meaning.

*Samsung* at 33–37.

Plaintiff cites disclosure regarding “call controller 54”:

The basic function of the station is to connect a first channel 51 with a second channel 52. Either channel may be wired or wireless, using various technologies.

The channel electronic means 53 implements the actual communications to connect between the channels 51 and 52. A call controller 54 *supervises and controls* the operation of means 53, according to commands received from a user through the control inputs 541 for the base station.

’284 Patent at 10:56–63 (emphasis added); *see id.* at Fig. 2. Even this disclosure of “supervises and controls” (*id.* at 10:61), however, does not refer to controlling the “rate or quantity” of data.

Further, Plaintiff does not show how the *Samsung* construction of “regulating data flow” as meaning “controlling a flow of data” (*Samsung* at 37) requires any different construction of “a controller adapted to regulate data flow.” (*See* Dkt. No. 131, at 7.)

Finally, Plaintiff cites prosecution history in which the patentee referred to regulating data flow through a gateway (emphasis in original):

Applicant respectfully argues that an adequate reading of the above excerpts clearly shows that the cited references neither teach nor suggest the limitations recited in pending independent claims 40–42, neither alone nor in combination (even if the combination was proper). Namely, the limitation of *regulating data flow* through a *gateway* between a *mobile device* and a *packet-based network*, based on information *received over the packet-based network* from a coordination center, is neither taught nor suggested by any of the cited references. The Examiner admits in the Final Office Action that the Johnson reference makes no mention of this limitation (see pg. 3 line 1 of the Office Action). In reality, not only is there no mention or suggestion of regulating data flow to a packet based data network from a gateway, the Johnson reference makes no mention whatsoever of regulating data flow through a gateway at all. Furthermore, all of the components the Johnson reference teaches operate within a circuit switched network and not a packet-based network and are focused on bandwidth allocation and not regulation of data flow. In short, the Johnson reference teaches nothing regarding data flow regulation and gateway management or structure. Applicant respectfully submits that the only teaching in the Johnson reference relevant to the pending application is the establishment and maintenance of an RF link with a mobile user.

(Dkt. No. 114, Ex. H, Dec. 16, 2010 Amendment, at 10 (BARKAN-SPRINT0000333) (p. 93 of 96 of Ex. H); *see id.*, at BARKAN-SPRINT0000297–98, BARKAN-SPRINT0000333–35.)

The patentee made these statements, however, in the context of arguing that “the cited references neither teach nor suggest the limitations recited in pending independent [application] claims 40–42.” (*Id.*) Those claims, which are set forth in the cited prosecution history, contained language explicitly referring to gateways. (*Id.*, at 8 (BARKAN-SPRINT0000331).) This prosecution history sets forth no relevant definition of the disputed term and contains no definitive statements that would warrant limiting the disputed term to being “through the gateway” as proposed by Plaintiff. *See Omega Eng’g*, 334 F.3d at 1323 (“As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on *definitive* statements made during prosecution.”) (emphasis added).

Thus, Plaintiff does not persuasively justify departing from the *Samsung* construction. The Court accordingly hereby construes “**a controller adapted to regulate data flow**” to have its **plain meaning**.

#### F. “tamper-free unit”/ “tamper free hardware”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“unit that prevents tampering, if someone tries to tamper with it” <sup>8</sup>	[Court’s prior construction]: “[hardware / unit] that includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it”

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<sup>8</sup> Plaintiff previously proposed: “unit that prevents or inhibits tampering, if someone tries to tamper with it.” (Dkt. No. 110, Ex. A, at 30.)

(Dkt. No. 110, Ex. A, at 30; Dkt. No. 114, at 18; Dkt. No. 129, at 26; Dkt. No. 139-1, at 8.) The parties submit that these disputed terms appear in Claim 13 of the '312 Patent and Claims 1–16, 18–19, and 28 of the '638 Patent. (Dkt. No. 110, Ex. A, at 30; Dkt. No. 139-1, at 8.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary constructions: “tamper free hardware” means “hardware that includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it”; and “tamper free unit” means “unit that includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it.”

#### (1) The Parties’ Positions

Plaintiff argues that “[b]ecause the exemplary content-destruction implementation of the patented inventions’ tamper-free features is (as the Court acknowledged [in *Samsung*]) merely ‘preferred,’ it cannot form the basis for construing ‘tamper free.’” (Dkt. No. 114, at 19.) “For example,” Plaintiff argues, “the use of encrypted digital documents within the base station is another potential means of making the device ‘tamper-free,’ and using encryption does not require deleting device contents or destroying data.” (*Id.*, at 19–20.)

Defendants respond that “[t]he term ‘tamper-free’ had no established meaning in the relevant art, so it should be construed as described in the specification,” as the Court did in *Samsung*. (Dkt. No. 129, at 26.) Defendants urge that “[t]he Court should reject Barkan’s attempt to relitigate arguments already decided.” (*Id.*, at 27.)

Plaintiff replies that Defendants’ proposal “improperly imports a permissive embodiment into the claim,” and “[t]he Court’s construction should be consistent with the full breadth of the claim language to include other disclosed embodiments, such as encryption.” (Dkt. No. 131, at 7–8.)

At the September 29, 2020 hearing, Plaintiff alternatively proposed adopting a modified version of the *Samsung* construction, referring to “means to destroy its contents or delete information stored therein *or refuse access to*, if someone tries to tamper with it.”

## (2) Analysis

Claim 1 of the '638 Patent, for example, recites (emphasis added):

1. An add-on base station comprising:
  - a transceiver adapted to establish a radio-frequency link with a mobile device;
  - a first interface, separate from said transceiver, that is adapted for communication over the public Internet;
  - a controller adapted to:
    - determine current geographical location data for the add-on base station using a global positioning system (GPS) device included in the add-on base station, wherein the current geographical location data includes location data determined by the GPS device;
    - transmit recurrent updates regarding current operating parameters to a server of a server system via the public Internet, wherein the current operating parameters include current geographical location data and the server system is adapted to identify the base station based on a unique property stored in a *tamper-free unit* of the add-on base station and to track the add-on base station based on the identification;
    - obtain, from a server of the server system accessed via the public Internet, gateway Internet Protocol (IP) address for a remote gateway that includes a first interface to the public Internet and a second interface communicably coupled to a network of a telephone service provider;
    - route, using the gateway IP address, data from the mobile device, over the public Internet, to the remote gateway; and
  - wherein the add-on base station has transmission power lower than transmission power of conventional base stations and produces a cell smaller than macrocells of conventional base stations, and wherein the server system is adapted to authorize and de-authorize add on base stations to route data to the remote gateway through the public Internet by recurrently issuing an operating license for the add-on base station.

*Samsung* construed “tamper-free unit” to mean “unit that includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it.” *Samsung* at 49–53.

*Samsung* cited disclosure that “[t]he billing unit can be a ‘black box’ inside each apparatus,” and “[t]his black box can be tamper-free, including means to destroy its contents or delete the information therein, if someone tries to tamper with it. This ensures that it can be trusted to work under commands given in policy documents.” ’284 Patent at 10:41–45; ’312 Patent at 10:47–51; ’638 Patent at 10:47–51. *Samsung* also considered disclosure, cited again by Plaintiff in the above-captioned case, regarding information that is “disseminated as digital documents encrypted so as to prevent tampering with.” (Dkt. No. 114, at 18; *Samsung* at 51; ’284 Patent at 6:22–25.)

Plaintiff cites various authorities that caution against limiting a claim term to a preferred implementation. (See Dkt. No. 114, at 19–20 (citing *Wenger*, 239 F.3d at 1237 (“Although the specification may well indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than such embodiments.”); *iFLY Holdings LLC v. Indoor Skydiving Germany GmbH*, No. 2:14-CV-1080-JRG-RSP, 2016 WL 1171021, at \*2 (E.D. Tex. Mar. 25, 2016) (“It is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.”) (quoting *EPOS Techs. Ltd. v. Pegasus Techs. Ltd.*, 766 F.3d 1338, 1341 (Fed. Cir. 2014)); *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 798 (Fed. Cir. 2019) (“While descriptions of the ‘present invention’ as a whole could limit the scope of the invention, use of the phrase ‘present invention’ or ‘this invention’ is not always so limiting, such

as where the references . . . are not uniform, or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent”) (citations and internal quotation marks omitted); *see also* Dkt. No. 131, at 8 (citing *Trading Techs. Int’l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2020) (“[W]hen the specification uses a single embodiment to enable the claims, courts should not limit the broader claim language to that embodiment ‘unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest execution [*sic*, exclusion] or restriction.’”)) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 905 (Fed. Cir. 2004)) (citation and internal quotation marks omitted)).)

Plaintiff argues that, by referring to “what is set forth as preferred,” *Samsung* improperly imported a limitation from a preferred embodiment. (Dkt. No. 114, at 18–19.) *Samsung* did indeed explain that, by disclosing “[t]his black box can be tamper-free,” the specification discloses “tamper-free” as a preferred feature. *Samsung* at 51. But *Samsung* rejected Plaintiff’s argument that the “means to destroy its contents or delete the information therein” is merely a preferred feature of “tamper-free.” *Id.* *Samsung* found that “what is set forth as preferred in this disclosure is the ‘tamper-free’ feature itself,” and “[t]he language relied upon by Defendants explains the meaning of ‘tamper-free’ in this context.” *Id.*

That is, *Samsung* interpreted the specification as: (1) identifying “tamper-free” as a preferred feature; and (2) describing the meaning of this feature and thereby describing the meaning of the term “tamper-free.” *Id.* Plaintiff fails to justify departing from the *Samsung* analysis.

The Court therefore hereby construes “**tamper-free hardware**” to mean “**hardware that includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it.**” The Court also hereby construes “**tamper-free unit**” to mean “**unit that**

**includes means to destroy its contents or delete information stored therein, if someone tries to tamper with it.”**

**G. “packet-based data network” / “packet based data network” / “packet-based” / “data network” / “data-network”**

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“an IP network that transfers data in the form of packets from a sender, across multiple networks, to a recipient”	Plain and ordinary meaning; Indefinite as written in ’312 Patent claims 1, 4, 8 based on ambiguity in the antecedent basis.

(Dkt. No. 110, Ex. A, at 32; Dkt. No. 114, at 20; Dkt. No. 129, at 11; Dkt. No. 139-1, at 2.) The parties submit that these disputed terms appear in Claim 2 of the ’284 Patent and Claims 1, 4, and 8 of the ’312 Patent. (Dkt. No. 110, Ex. A, at 32; Dkt. No. 139-1, at 2.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “a network that transfers packets of data from a sender to a recipient.”

(1) The Parties’ Positions

Plaintiff argues that “Barkan’s proposed construction incorporates th[e Samsung] construction, and further clarifies it to account for the distinction between a packet-based data network such as the ‘Internet’ ( . . . ’284 Patent, at 3:19), to which the claimed invention relates, and local networks, such as Local Area Networks (‘LANs’).” (Dkt. No. 114, at 20.) Plaintiff also argues that “[t]he repeated reference throughout the intrinsic record to IP networks, and particularly the Internet (a network comprised of many networks), dictates that the claimed packet-based data network is an *IP network*,” and “the nature of such IP networks necessarily requires transmission *across multiple networks*.” (*Id.*, at 21.) As to the claims of the ’312 Patent, Plaintiff argues that “the preamble recitations of a ‘packet-based data network’ are not limiting,” and “the

presence of a hyphen is not creating a distinction between the[] terms [‘packet based data network’ and ‘packet-based data network’].” (*Id.*, at 23–24.)

Defendants respond that “Barkan’s proposed construction is inconsistent with the embodiments of Figures 5–7 of the ’284 Patent and Figures 5 and 6 of the ’312 Patent, each depicting communications from a sender to a recipient across a *single* packet network, and not the multiple packet networks advocated for by Barkan now.” (Dkt. No. 129, at 11.) Defendants submit that, as shown in Figures 1, 6, and 7 of the ’312 Patent, “[t]he add-on base station can be connected to a single data network or to multiple data networks.” (*Id.*, at 13.) As to indefiniteness, Defendants argue that “[a]s a result of the multiple iterations of the[] ‘data network’ terms, it is unclear whether claim 4 recites a system with one, two, or three distinct data networks,” and “Claims 1 and 8 contain similar problems.” (*Id.*, at 11 & 14.)

Plaintiff replies that “one of skill in the art would understand the IP Network 24 depicted in each of . . . figures [5–7 of the ’312 Patent] to be an internet, or network of networks.” (Dkt. No. 131, at 8 (citing ’312 Patent at 4:54–55).) Further, Plaintiff argues, “[t]he claims repeatedly invoke a ‘packet-based data network,’ and one of skill in the art would understand that these terms refer to the same network.” (*Id.*, at 9.)

At the September 29, 2020 hearing, Defendants agreed with the Court’s preliminary construction as to the ’284 Patent but maintained their indefiniteness arguments as to the ’312 Patent. Plaintiff agreed with the Court’s preliminary construction insofar as it holds that each claim refers to the same packet-based data network throughout. Plaintiff otherwise limited its oral arguments to Defendants’ assertion of indefiniteness.

## (2) Analysis

Claim 2 of the ’284 Patent recites (emphasis added):

2. A communication system comprising:

a coordination center connected to a *packet based data network* through a first [i]nterface, two or more gateways functionally associated with a *packet based data network*, wherein each gateway comprises:

a transceiver adapted to establish a radio-frequency link with a mobile device;

a second interface adapted to facilitate data flow between the mobile device and the data network; and

a controller adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from said coordination center.

*Samsung* construed “packet-based data network” to mean “a network that transfers packets of data from a sender to a recipient.” *Samsung* at 13–18. Plaintiff proposes modifying the *Samsung* construction so as to refer to an “IP network” and to refer to transferring “across multiple networks.” (Dkt. No. 114, at 21–23.)

As to Plaintiff’s proposal of requiring an “IP” network, Plaintiff cites various disclosures regarding the “Internet,” and Plaintiff notes that, in the specification, “Internet refers to any IP network.” ’284 Patent at 3:61–62. For example, the specification discloses:

A first user is given an *Internet* address of the other party and may connect it directly. This achieves a direct link from one base station to another, *through IP*. It may also be possible to connect users through the same base station.

\* \* \*

The packets are sent over an *IP network* to their destination. It is possible that some packets are lost during the routing, and that the packets are received in a different order. However, if not too many packets are lost, the voice quality remains OK. A buffer is usually enough to compensate for the re-ordering of packets.

\* \* \*

The owner of the box connects it to an *IP network* to expand the existing cellular infrastructure—now a user can connect through the new base station to an *Internet*, to establish a link with a remote user.

’284 Patent at 3:19–22, 4:10–15 & 4:46–49 (emphasis added); *see id.* at 12:47–48 (“[A] communication link is established between users 11 and 14 through the IP network 24.”), 14:34–

38 (“A new base station 42 connects (bridges) between an Internet network 24 and the existing telephone network 23 . . .”) & 15:34–36 (similar as to “new base station 41”). Plaintiff also cites a statement during prosecution of the ’284 Patent that “all the pending claims recite regulating access to a packet-based data network (e.g[.] the Internet).” (Dkt. No. 114, Ex. H, Mar. 1, 2010 Response, at 6 (BARKAN-SPRINT\_00000298) (emphasis omitted); *see id.*, Dec. 16, 2010 Amendment, at 11 (BARKAN-SPRINT\_00000334) (same).)

On balance, these disclosures and statements regarding the “Internet” and an “IP network” relate to specific features of particular disclosed embodiments that should not be imported into the terms “packet-based data network,” “packet based data network,” “packet-based,” and “data network.” *Phillips*, 415 F.3d at 1323; *see Samsung* at 13–18.

Plaintiff’s arguments regarding the meaning of “packet” are unavailing. For example, Plaintiff argues that “one of skill in the art at the time of the Patents-in-Suit would have understood that a ‘packet-based data network’ operates at layer 3, the network layer, which uses packets as its protocol data unit.” (Dkt. No. 114, at 22 (citing *id.*, Ex. K, IPR2018-01186, Mar. 7, 2019 Lomp Decl., at ¶¶ 54–56).) Plaintiff does not present a construction for “packets,” which is a word that itself appears in Plaintiff’s proposed construction. Further, Plaintiff does not persuasively show that the use of “packets” necessarily implies an “IP network.”

As to Plaintiff’s proposal of “across multiple networks,” Figures 5 and 6 of the ’312 Patent each illustrate a single “IP Network 24.” Plaintiff argues that “one of skill in the art would understand the IP Network 24 depicted in each of those figures to be an internet, or network of networks.” (Dkt. No. 131, at 8). Plaintiff cites disclosure that “[i]t is assumed that all new base stations are connected to an Internet, since it is in widespread use.” ’312 Patent at 4:54–55. This disclosure does not adequately support Plaintiff’s proposal because this disclosure refers to

particular disclosed embodiments rather than the invention as a whole or the “packet-based data network” terms in general. *See id.; see also id.* at 3:53–55 (“[a] preferred embodiment”).

Plaintiff cites expert opinions regarding the Open Systems Interconnection (“OSI”) model for communications and that “[u]nlike ‘local’ networks, packet-based networks are specifically designed to be able to transmit data across multiple networks.” (Dkt. No. 114, Ex. K, IPR2018-01186, Mar. 7, 2019 Lomp Decl., at ¶ 47; *see id.* at ¶¶ 43–48; *see also id.*, Ex. O, *Computer Networks* 37–39 (4th ed.) (IPR2018-01186, Ex. 2036).)

On its face, however, Plaintiff’s proposal of a “network,” singular, that transfers data “across multiple networks,” plural, is confusing and potentially inconsistent.

Further, the expert opinion cited by Plaintiff related to distinguishing particular art in an IPR proceeding. There, Plaintiff’s expert opined: “In light of these many differences between a layer 2 network (*e.g.*, Farris’s Ethernet LAN) and a layer 3 network (a packet-based layer), a POSITA [(person of ordinary skill in the art)] would not understand Farris’s LAN 70 to satisfy or anticipate the claimed ‘packet-based data network.’”<sup>9</sup> (Dkt. No. 114, Ex. K, IPR2018-01186, Mar. 7, 2019 Lomp Decl., at ¶ 65.) Plaintiff has not identified any statement in this expert declaration that justifies limiting “packet-based” to IP or to communications across multiple networks. (*See id.*, at ¶¶ 42–65; *see also* Dkt. No. 114, at 21–23.) Additional extrinsic evidence cited by Plaintiff is likewise unconvincing. (*See id.*, Ex. R, *The IEEE Standard Dictionary of Electrical and Electronics Terms* 741 (6th ed. 1996); *see also id.*, Ex. S, *TCP/IP Illustrated* 1–19 (vol. 1, 1994) (“The network layer . . . handles the movement of packets around the network. Routing of packets, for example, takes place here.”).)

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<sup>9</sup> The excerpts of this expert declaration submitted by Plaintiff do not include an identification of “Farris,” but the excerpts demonstrate that “Farris” referred to a reference cited by the IPR petitioner.

The Court therefore rejects Plaintiff's proposal of requiring "multiple networks."

Defendants argue indefiniteness as to these terms in Claims 1, 4, and 8 of the '312 Patent, which recite (emphasis added):

1. *A gateway to a packet-based data network comprising:*
  - a transceiver adapted to establish a radio frequency link with a mobile device;
  - a connector to *a packet based data network*; and
  - a connection regulator adapted to facilitate data flow between the mobile device and *the packet-based data network*;
  - wherein *said gateway* is adapted to determine a physical location of said gateway.

\* \* \*

4. *A system for providing wireless access to a packet based data network comprising:*

*a gateway to a packet-based data network comprising:*

- a transceiver adapted to establish a radio frequency link with a mobile device;
- a connector to *a packet based data network*;
- a connection regulator adapted to facilitate data flow between the mobile device and *the packet-based, data network*; and
- a coordination center adapted to communicate with said gateway via *the packet based data network*;

wherein, said gateway is adapted to send to said coordination center physical location related information and said coordination center is adapted to track the physical location of said gateway.

\* \* \*

8. *A system for providing wireless access to a packet based data network comprising:*

*a gateway to a packet-based data network comprising:*

- a transceiver adapted to establish a radio frequency link with a mobile device;
- a connector to *a packet based data network*; and
- a connection regulator adapted to facilitate data flow between the mobile device and *the packet-based data network*;

wherein said gateway is associated, with a unique identity bound, to a cryptographic key; and

a coordination center adapted to communicate with said gateway via *the packet based data network.*

As a threshold matter, the parties dispute whether the preambles of these claims are limiting.

In general, a preamble limits the invention if it recites essential structure or steps, or if it is “necessary to give life, meaning, and vitality” to the claim. *Pitney Bowes[Inc. v. Hewlett-Packard Co.]*, 182 F.3d [1298,] 1305 [(Fed. Cir. 1999)]. Conversely, a preamble is not limiting “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997).

*Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002); *see, e.g., Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) (“When limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.”); *C.W. Zumbiel Co. v. Kappos*, 702 F.3d 1371, 1385 (Fed. Cir. 2012) (finding preambles limiting because “‘containers’ as recited in the claim body depend on ‘a plurality of containers’ in the preamble as an antecedent basis”).

Also, “the purpose or intended use of the invention . . . is of no significance to claim construction . . . .” *See Pitney Bowes*, 182 F.3d at 1305. This principle has sometimes been characterized as “the presumption against reading a statement of purpose in the preamble as a claim limitation.” *Marrin v. Griffin*, 599 F.3d 1290, 1294–95 (Fed. Cir. 2010); *see Allen Eng'g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002) (“Generally, the preamble does not limit the claims.”); *see also Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 769–71 (Fed. Cir. 2018) (in preamble reciting “[a] computer network for providing an information delivery service for a plurality of participants,” finding “information delivery service” to be non-limiting because it “merely describe[s] intended uses for what is otherwise a structurally complete invention”).

As to Claim 1 of the '312 Patent, "a gateway" in the preamble provides antecedent basis for "said gateway" in the body of the claim and is therefore a limitation. *Eaton*, 323 F.3d at 1339 (quoted above).

In some cases, "that [a] phrase in the preamble . . . provides a necessary structure for [the] claim . . . does not necessarily convert the entire preamble into a limitation, particularly one that only states the intended use of the invention." *TomTom Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. 2015); *see also id.* ("It was therefore error for the district court to use an antecedent basis rationale to justify converting this independent part of the preamble into a new claim limitation."); *Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1234, 1236–38 (Fed. Cir. 2017) (preamble language "system for inspecting a railroad track bed, including the railroad track, to be mounted on a vehicle for movement along the railroad track" not limiting as to "to be mounted on a vehicle for movement along the railroad track," even though "railroad track bed" provided antecedent basis for limitations in body of claim).

Here, however, "said gateway" in the body of Claim 1 is "defined in greater detail in the preamble" as a "gateway to a packet-based data network." *Proveris Scientific Corp. v. Innovasystems, Inc.*, 739 F.3d 1367, 1373 (Fed. Cir. 2014) ("The phrase 'the image data' clearly derives antecedent basis from the 'image data' that is defined in greater detail in the preamble as being 'representative of at least one sequential set of images of a spray plume.'").

As to Claims 4 and 8 of the '312 Patent, the preambles do not provide antecedent basis for any limitation recited in the body of each claim, and Defendants do not otherwise demonstrate that the preambles are limiting.

Having resolved the threshold dispute regarding whether the preambles are limiting, the Court turns to Defendants' indefiniteness argument. For example, as to Claim 4, Defendants

submit that the claim recites three different versions of the “data network” term: “packet based data network,” “packet-based data network” (with a hyphen), and “packet-based, data network” (with a hyphen and a comma),” and “[a]s a result . . . it is unclear whether claim 4 recites a system with one, two, or three distinct data networks.” (Dkt. No. 129, at 12.) Defendants present similar arguments as to Claims 1 and 8.

Claim 8 of the ’312 Patent is representative and recites:

8. A system for providing wireless access to a packet based data network comprising:

a gateway to *a packet-based data network* comprising:  
a transceiver adapted to establish a radio frequency link with  
a mobile device;  
a connector to *a packet based data network*; and  
a connection regulator adapted to facilitate data flow  
between the mobile device and *the packet-based data network*;

wherein said gateway is associated, with a unique identity bound, to a cryptographic key; and

a coordination center adapted to communicate with said gateway via *the packet based data network*.

Because the claims recite “a gateway *to* a packet-based data network *comprising*” and then recite “a connector *to* a packet based data network” *as part of the gateway*, a natural reading of each claim as a whole is that the “connector to a packet based data network” refers to the same “packet-based data network” recited earlier in the claim. *See Phillips*, 415 F.3d at 1314 (“the context in which a term is used in the asserted claim can be highly instructive”).

Defendants fail to persuasively demonstrate that the presence or absence of a hyphen gives rise to any lack of reasonable certainty as to the antecedent basis. Similarly, the presence of a comma after “packet-based” in one instance in Claim 4 does not give rise to any lack of reasonable certainty regarding antecedent basis. Alternatively, even if the antecedent basis for any of these terms were deemed to be less than explicit, the antecedent basis is implicit. *See Energizer Holdings*

*Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1371 (Fed. Cir. 2006) (holding that “an anode gel comprised of zinc as the active anode component” provided implicit antecedent basis for “said zinc anode”). The disclosures cited by Defendants do not compel otherwise. *See* ’312 Patent at 2:33–35 (“A distributed network may incorporate the novel base stations within a conglomerate of cellular nets, wired telephone networks and an Internet.”), 4:11–14, 8:21–23 (referring to “packets of voice”) & Figs. 1, 6, & 7; *see also id.* at 4:36–38, 11:47–51 (“connecting the RF channel to the phone line connection 64 and the IP connection 65”) & Fig. 3.

Even assuming for the sake of argument that the specification discloses a gateway that connects to multiple packet-based data networks, as Defendants argue, any such evidence does not warrant departing from a natural reading of the claim limitations as referring to the same packet-based data network throughout each claim. The contrary opinions of Defendants’ expert are unpersuasive. (Dkt. No. 129, Ex. 11, July 21, 2020 Stark Decl., at ¶¶ 39–69.) At the September 29, 2020 hearing, Defendants noted that Plaintiff did not depose Defendants’ expert and that Plaintiff has not submitted any expert to rebut the opinions of Defendants’ expert, but the plain language of the claims is sufficiently clear as discussed above. *See Phillips*, 415 F.3d at 1318 (“a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent”) (citation and internal quotation marks omitted).

The Court therefore rejects Defendants’ indefiniteness arguments as to Claims 1, 4, and 8 of the ’312 Patent. Based on all of the foregoing, the Court hereby construes **“packet-based data**

**network” and “packet based data network” to mean “a network that transfers packets of data from a sender to a recipient.”<sup>10</sup>**

#### **H. “unique identity bound to a cryptographic key”**

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
“unique identity and a cryptographic key associated with one another”	[Court’s prior construction]: “unique identity and a cryptographic key associated with one another in a certificate”

(Dkt. No. 110, Ex. A, at 38; Dkt. No. 114, at 25; Dkt. No. 129, at 27; Dkt. No. 139-1, at 9.) The parties submit that this disputed term appears in Claims 8–13 and 39–52 of the ’312 Patent. (Dkt. No. 110, Ex. A, at 38; Dkt. No. 139-1, at 9.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “unique identity and a cryptographic key associated with one another in a certificate.”

##### **(1) The Parties’ Positions**

Plaintiff argues that “[t]he Court should revise its construction of this term from the *Samsung* litigation to delete the requirement of ‘in a certificate,’” which “was erroneous for importing a limitation from an embodiment of the invention described in the specification.” (Dkt. No. 114, at 25.)

Defendants respond that “[t]he Court’s prior construction is correct, Barkan did not object to the Court’s prior construction under Rule 72 in the *Samsung* case, and Barkan does not provide a strong reason for departure.” (Dkt. No. 129, at 28.)

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<sup>10</sup> The parties’ briefing also identifies, as purported disputed terms, “packet-based,” “data network,” and “data-network.” (See Dkt. No. 114, at 20; *see also* Dkt. No. 129, at 11.) The parties have not identified any separate disputes as to the terms “packet-based” or “data network,” and the purported term “data-network” does not appear in any identified claim.

Plaintiff replies that “[e]ach disclosure of a ‘certificate’ in the specification is permissive in nature.” (Dkt. No. 131, at 9 (citing ’284 Patent at 8:9–11 & 9:34–38).)

At the September 29, 2020 hearing, the parties submitted this disputed term for construction based on the briefing, without oral argument.

## (2) Analysis

Claim 8 of the ’312 Patent, for example, recites (emphasis added):

8. A system for providing wireless access to a packet based data network comprising:

- a gateway to a packet-based data network comprising:
  - a transceiver adapted to establish a radio frequency link with a mobile device;
  - a connector to a packet based data network; and
  - a connection regulator adapted to facilitate data flow between the mobile device and the packet-based data network;

wherein said gateway is associated, with a *unique identity bound, to a cryptographic key*; and

a coordination center adapted to communicate with said gateway via the packet based data network.

*Samsung* construed “unique identity bound to a cryptographic key”<sup>11</sup> to mean “unique identity and a cryptographic key associated with one another in a certificate.” *Samsung* at 62–66.

Among other evidence, *Samsung* reviewed the following disclosure:

Each phone, base station and the cellular center 3 *may have their own digital certificate, which binds a cryptographic public key, with an identifier.*

The certificate may also contain information such as their phone number or identity. The extra information can also be included in other digitally signed digital documents.

In this way the packets of voice originating from the phone, can be encrypted by the destination public key to the other phone, ensuring privacy. They can also (or

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<sup>11</sup> In the present case as in *Samsung*, the term that appears in Claim 8 includes a comma (“unique identity bound to a cryptographic key”), but in their claim construction submissions the parties present this term with no comma. (See Dkt. No. 114, at 25; see also Dkt. No. 129, at 27; Dkt. No. 139-1, at 9.)

alternatively) [be] signed by the originator's private key, to ensure authentication (and possibly non-repudiation).

'284 Patent at 8:9–20 (emphasis added); '312 Patent at 8:15–25.

*Samsung* found that “[t]his disclosure suggests that ‘binding’ means something more than Plaintiff’s suggestion of merely associating.” *Samsung* at 65. Plaintiff argues that the word “may” in this disclosure is permissive (Dkt. No. 114, at 25), but what is permissive is that “each phone, base station and the cellular center 3 may have their own digital certificate.” '284 Patent at 8:9–10; '312 Patent at 8:15–16. This use of “may” does not conflict with using this disclosure of “binds” (in the context of a cryptographic key, an identifier, and a digital certificate) to inform the meaning of the disputed term “unique identity bound to a cryptographic key.”<sup>12</sup>

Plaintiff also cites disclosure that “[t]he cellular center 3 can issue a *certificate (an operating license)* or another digital document, to the effect that ‘this phone/base station is part of my network and is in working order’ to all the devices connected thereto.” '284 Patent at 9:34–38 (emphasis added). This disclosure regarding a “certificate” in the context of being able to operate and being in working order does not undermine the above-reproduced disclosure regarding a digital certificate in the context of a cryptographic key and an identifier.

The Court therefore hereby construes “**unique identity bound to a cryptographic key**” to mean “**unique identity and a cryptographic key associated with one another in a certificate.**”

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<sup>12</sup> Of further note with regard to Plaintiff’s proposal of “associated,” above-reproduced Claim 8 of the '312 Patent uses the word “associated” as well as the word “bound.”

## I. “a gateway to a packet-based data network”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; alternatively, “a network device that facilitates communication between a network and a packet-based data network”	The full preamble is limiting

(Dkt. No. 110, Ex. A, at 45; Dkt. No. 114, at 26; Dkt. No. 139-1, at 3–4; *see* Dkt. No. 129, at 15.)

The parties submit that this disputed term appears in Claim 1 of the ’312 Patent. (Dkt. No. 110, Ex. A, at 45; Dkt. No. 139-1, at 3–4.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “Preamble is limiting.”

### (1) The Parties’ Positions

Plaintiff incorporates its arguments as to “packet-based data network,” discussed above. (Dkt. No. 114, at 26.) Specifically, Plaintiff argues that “the ‘a packet-based data network’ component of the preamble should not be limiting, as it is recited within the claim limitations without the definite article ‘the.’” (*Id.*)

Defendants respond that the preamble “is necessary to give meaning to the claim,” and “[b]ecause the meaning of ‘said gateway’ only can be answered with reference to the preamble’s recitation of ‘a gateway to a packet-based data network,’ that preamble phrase (‘gateway to a packet-based data network’) limits the claim.” (Dkt. No. 129, at 15.) Further, Defendants argue that “Barkan’s alternative construction also should be dismissed because it will needlessly confuse the jury and imports Barkan’s incorrect construction of ‘packet-based data network.’” (*Id.*, at 16 (footnote omitted).)

Plaintiff replies that “[t]he ‘gateway’ in the preamble is limiting because it provides antecedent basis for later recitations of ‘gateway’ in the claim,” but “[t]he remainder of the preamble, however, is not required to understand the claims.” (Dkt. No. 131, at 9.)

At the September 29, 2020 hearing, the parties submitted this disputed term for construction based on the briefing, without oral argument.

## (2) Analysis

Claim 1 of the ’312 Patent recites (emphasis added):

1. A *gateway to a packet-based data network* comprising:
  - a transceiver adapted to establish a radio frequency link with a mobile device;
  - a connector to a packet based data network; and
  - a connection regulator adapted to facilitate data flow between the mobile device and the packet-based data network;

wherein *said gateway* is adapted to determine a physical location of *said gateway*.

In *Samsung*, the parties did not present “gateway to a packet-based data network” as a disputed term, so the Court in *Samsung* did not construe this term. *Samsung* construed “gateway” to mean “a network device that facilitates communication between two or more networks.” *Samsung* at 13. In the present case, the parties have agreed upon the *Samsung* construction of “gateway.” (Dkt. No. 110, at 1.)

As found above regarding the “packet-based data network” terms, the preamble of Claim 1 of the ’312 Patent is limiting.

Plaintiff cites *Cochlear Bone Anchored Solutions AB v. Oticon Med. AB*, 958 F.3d 1348 (Fed. Cir. 2020). (Dkt. No. 114, at 26; Dkt. No. 131, at 9.) In *Cochlear Bone*, the preamble recited: “A bone-conducting bone-anchored hearing aid apparatus for sound transmission from one side of a patient’s head to the patient’s cochlea on another side of the patient’s head for rehabilitation of unilateral hearing loss.” *Id.* at 1351. The Federal Circuit found that the phrase “for rehabilitation

of unilateral hearing loss” was not limiting because it “identify[d] no structure for the apparatus claimed” and was “merely a statement of intended use of the claimed hearing aid.” *Id.* at 1355.

Here, unlike in *Cochlear Bone*, the preamble phrase at issue (“to a packet-based data network”) describes the “gateway” and is not merely a statement of intended use. *See Proveris*, 739 F.3d at 1373 (“The phrase ‘the image data’ clearly derives antecedent basis from the ‘image data’ that is *defined in greater detail* in the preamble as being ‘representative of at least one sequential set of images of a spray plume.’”) (emphasis added). *Cochlear Bone* is therefore distinguishable and is unpersuasive.

The Court accordingly hereby finds that **“gateway to a packet-based data network” is limiting.**

#### **J. “conduct encrypted communications”**

<b>Plaintiff’s Proposed Construction</b>	<b>Defendants’ Proposed Construction</b>
No construction necessary; alternatively, “use encryption in communications”	“encrypt communications [with said center] using the encryption key”

(Dkt. No. 110, Ex. A, at 45; Dkt. No. 114, at 26; Dkt. No. 129, at 16; Dkt. No. 139-1, at 4.) The parties submit that this disputed term appears in Claim 15 of the ’284 Patent. (Dkt. No. 110, Ex. A, at 45; Dkt. No. 139-1, at 4.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “Plain and ordinary meaning”; “Note: reject limitation of ‘using the encryption key.’”

##### (1) The Parties’ Positions

Plaintiff argues: “The jury will understand what encrypted communications are. No construction is necessary.” (Dkt. No. 114, at 26.) Further, Plaintiff argues that “[n]othing in the claim language requires that the communications be encrypted ‘using the encryption key’

described in the first, separate limitation of Claim 15,” and “[t]he specification does not require or specify that encrypted communications must be conducted using ‘the encryption key’ of the claimed gateway.” (*Id.*, at 27.) Plaintiff submits that “[t]o the extent the specification speaks of using an encryption key to perform encryption, it is merely an embodiment described in permissive language.” (*Id.*) Alternatively, Plaintiff argues that its alternative proposal “is consistent with the specification, which describes the use of encryption in communications without requiring the encryption be achieved using an encryption key.” (*Id.*, at 28.)

Defendants respond that “[a]s demonstrated by the claim language itself and the specification, the encryption key is a critical part of this claimed function.” (Dkt. No. 129, at 16.) Defendants also submit that “[u]nder Barkan’s construction, this term includes any communication of encrypted contents, even if the actual communications are not encrypted at all (like e-mailing a password-protected file where the e-mail itself is not encrypted).” (*Id.*, at 17.) Defendants argue that their proposal “properly links the claimed ‘encryption key’ and ‘encrypted communications,’” and “this is the only means of encrypting communications disclosed by the patent.” (*Id.*)

Plaintiff replies that Defendants’ proposal of “using the encryption key” is not supported by any claim language, and “[n]one of the passages cited by Defendants reference the claimed controller conducting encrypted communications using the encryption key of the claimed gateway.” (Dkt. No. 131, at 9–10.)

At the September 29, 2020 hearing, Defendants urged that conducting encryption requires an encryption key and that Claim 15 recites this key. Plaintiff responded that the claim does not recite any connection between the first limitation and the second limitation, that the presence of a semicolon weighs against finding any such connection, and that examples disclosed in the

specification use encryption for purposes *other* than the controllers communicating with a coordination center.

(2) Analysis

The parties in *Samsung* did not dispute the meaning of “conduct encrypted communications,” so *Samsung* did not construe this term.

Plaintiff’s alternative proposal of “use encryption in communications” does not significantly clarify the meaning of “conduct encrypted communications” and might be interpreted as overbroad. As Defendants point out, to “use encryption” might not necessarily refer to the communications themselves being encrypted. (Dkt. No. 129, at 17.) On its face, the word “encrypted” modifies “communications,” so the disputed term is sufficiently clear that the communications themselves must be encrypted.

As to Defendants’ proposal of “using the encryption key,” Claim 15 of the ’284 Patent depends from Claim 14, which in turn depends from Claim 2. Claims 2, 14, and 15 of the ’284 Patent recite (emphasis added):

2. A communication system comprising:

a coordination center connected to a packet based data network through a first [i]nterface, two or more gateways functionally associated with a packet based data network, wherein each gateway comprises:

a transceiver adapted to establish a radio-frequency link with a mobile device;

a second interface adapted to facilitate data flow between the mobile device and the data network; and

a *controller* adapted to regulate data flow between the mobile device and the data network based, at least partially, on information received over the data network from said coordination center.

\* \* \*

14. The system according to claim 2, wherein said gateways further comprise a unique identity achieved by a unique number or digital document.

15. The system according to claim 14, wherein said unique number or digital document contains an encryption key; and

*said controllers* are further adapted to *conduct encrypted communications* with said center.

Defendants argue that if the “encryption key” is not used for the “encrypted communications,” then the recited encryption key would be superfluous. Defendants cite authority that “[a] claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.” *Merck & Co. v. Teva Pharm. USA*, 395 F.3d 1364, 1372 (Fed. Cir. 2005).

But whereas Claim 15 recites that the “controllers” conduct encrypted communications, the encryption key is recited as part of the “gateway” (the encryption key is contained in a unique number or digital document, which Claim 14 recites is part of the gateway), and the controllers are likewise recited as being merely part of the gateway. *See* ’284 Patent, Cls. 2, 14 & 15. In other words, the “encryption key” is recited as being part of something that is broader than just the “controllers” (and it is the controllers, specifically, that are recited as conducting encrypted communications).

Claim 15 thereby allows for the gateway’s encryption key to be used with other claimed components, outside of “said controllers [being] further adapted to conduct encrypted communications with said center.” In particular, the claimed gateway in above-reproduced Claim 2 includes “a radio-frequency link with a mobile device” as well as “data flow between the mobile device and the data network.” The specification discloses that such communications can be encrypted. *See* ’284 Patent at 8:15–17 (“the packets of voice originating from the phone, can be encrypted by the destination public key to the other phone, ensuring privacy”); *see also id.* at 8:21–22.

Thus, although Claim 15 recites “an encryption key” and “encrypted communications,” the claim does not refer to these particular “encrypted communications” necessarily using this

particular “encryption key.” This also comports with Claim 21, which recites “The method according to claim 3, further comprising encrypting communications between said transceiver and said coordination center” but does not recite any encryption key.

Defendants cite disclosure in the specification, namely column 8, lines 15 to 58, of the ’284 Patent, and this portion of the specification discloses:

#### Data Security

Each phone, base station and the cellular center 3 may have their own digital certificate, which binds a cryptographic public key, with an identifier.

The certificate may also contain information such as their phone number or identity. The extra information can also be included in other digitally signed digital documents.

In this way the *packets of voice originating from the phone, can be encrypted by the destination public key to the other phone, ensuring privacy.* They can also (or alternatively) signed [sic] by the originator’s private key, to ensure authentication (and possibly non-repudiation).

A phone user may require that all incoming or outgoing calls be authenticated and/or encrypted.

The control channel includes the information exchanged between base stations, phones and/or centers.

The control channel can be encrypted at the base stations, the centers and/or the phones.

The phone can send back to the base station the necessary changes (such as a cell change). The communication between the phone and its base station can also be encrypted.

It is possible to preserve the anonymity of the caller and the addressee, using the following method:

A. A caller sends a request to connect to a specific addressee, using a message encrypted with the public key of a center 3. The message also includes the identification of the caller. Nobody can read this message, since it is encrypted.

B. the center decrypts the message, identifies the caller and the addressee.

C. *the center composes a message for the addressee and encrypts it with the public key of the addressee.* The message is then sent to base stations that may be in contact with that addressee.

The actual policy in use may vary from network to network. A search path may be followed, according to information from past activity for example.

D. the base station transmits the message “as is” or in a modified form. In any case, the encrypted section is preserved—the base station and other phones in the area will not know who is the caller and who is the addressee.

E. only the designated addressee will be capable to decrypt the message, and will be thus notified of the attempted connection. *Other phones, that do not possess the required private key, will not be able to decrypt the message,* and will thus know that the message was not addressed to them.

F. if the addressee decides to answer the call, he sends a response message, *encrypted with a known public key*—for example that of the center, or may ask the base station to reply to that call.

G. the center sends a message to the caller, with information to allow him to implement the connection with the addressee.

’284 Patent at 8:8–60 (emphasis added).

Defendants fail to show how this disclosure requires a gateway<sup>13</sup> to have a unique number or digital document that contains an encryption key that is used for controllers to conduct encrypted communications with a coordination center. To whatever extent this disclosure supports such a reading, this is a specific feature of particular disclosed embodiments that should not be imported into the claim. *Phillips*, 415 F.3d at 1323.

The Court therefore hereby expressly rejects Defendants’ proposed construction. No further construction is necessary. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe

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<sup>13</sup> *Samsung* construed “gateway” to mean “a network device that facilitates communication between two or more networks.” *Samsung* at 13. In the present case, the parties have agreed upon the *Samsung* construction of “gateway.” (Dkt. No. 110, at 1.)

every limitation present in a patent’s asserted claims.”); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”); *ActiveVideo Networks, Inc. v. Verizon Commcn’s, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015).

The Court accordingly hereby construes “**conduct encrypted communications**” to have its **plain meaning**.

#### K. “adapted to”

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
No construction necessary; plain and ordinary meaning applies.	“configured to as opposed to mere capability to”

(Dkt. No. 110, Ex. A, at 47; Dkt. No. 114, at 28; Dkt. No. 129, at 29; Dkt. No. 139-1, at 10.) The parties submit that this disputed term appears in Claims 4, 11, and 15 of the ’284 Patent, all asserted claims of the ’312 Patent, and all asserted claims of the ’638 Patent. (Dkt. No. 110, Ex. A, at 47; Dkt. No. 139-1, at 10.)

Shortly before the start of the September 29, 2020 hearing, the Court provided the parties with the following preliminary construction: “configured to.”

##### (1) The Parties’ Positions

Plaintiff cites this Court’s statement, as to an unrelated patent, that “‘adapted to’ is not ambiguous.” (Dkt. No. 114, at 29 (citing *Profectus Tech. LLC v. Huawei Techs. Co., Ltd.*, No. 6:11-CV-474, 2014 WL 1575719, at \*8 (E.D. Tex. Apr. 17, 2014).) Plaintiff argues that “the Patents do not mention the notion of ‘configuration’ a single time,” and “if construed, the construction should at least encompass the ordinary meaning of the term: that the inventions are ‘capable of’ performing the operations identified.” (Dkt. No. 114, at 29.) Plaintiff urges that “[t]he

Patents repeatedly equate the concept of what the devices are ‘adapted to’ do with their capability.” (*Id.*, at 30.)

Defendants respond that “Barkan plainly intends to argue contrary to the Court’s previous Order that a device can be ‘configured to’ perform a specified function merely by being capable of performing a specified functionality.” (Dkt. No. 129, at 29.) Defendants “request the same construction of ‘adapted to’ as in the *Samsung* case, but with language that makes explicit the Court’s previous finding that mere capability is insufficient.” (*Id.*)

Plaintiff replies that “the construction should, at minimum, not exclude the notion of ‘capability’ that ‘adapted to’ includes.” (Dkt. No. 131, at 10.) Plaintiff argues:

A significant number of asserted claims—which use the phrase “adapted to”—are apparatus claims relating to the physical add-on base station or gateway. They identify the operations that the device was designed to or can perform, not functions the device is necessarily *presently performing*. *See, e.g.*, Ex. C, ‘638 Claim 1. Defendants cite *nothing* in the claims requiring that the device be presently performing particular operations. Accordingly, any construction of “adapted to” cannot exclude the notion of design or capability, and Defendants’ proposed construction should be rejected.

(*Id.*, at 10.)

At the September 29, 2020 hearing, Defendants reiterated that its proposal merely makes the *Samsung* analysis explicit in the construction, which Defendants argued will assist the finder of fact. Plaintiff submitted this disputed term on the briefing, without oral argument.

## (2) Analysis

Claim 1 of the ’284 Patent, for example, recites (emphasis added):

1. A gateway to a packet-based data network comprising:
  - a transceiver *adapted to* establish a radio-frequency link with a mobile device;
  - a first interface *adapted to* facilitate data flow between the mobile device and the packet-based data network; and
  - a controller *adapted to* regulate data flow between the mobile device and the data network based, at least partially, on information received over the data

network from a coordination center, which center is connected to the data network through a second interface.

*Samsung* construed “adapted to” to mean “configured to.” *Samsung* at 70–73. *Samsung* rejected Plaintiff’s argument in *Samsung* that construing “adapted to” as “configured to” would improperly “exclude devices ‘capable of’ performing recited functions.” *Samsung* at 71; *see id.* at 72–73.

In the present case as in *Samsung*, Plaintiff cites *Aspex Eyewear*, in which the Federal Circuit stated that “[i]n common parlance, the phrase ‘adapted to’ is frequently used to mean ‘made to,’ ‘designed to,’ or ‘configured to,’ but it can also be used in a broader sense to mean ‘capable of’ or ‘suitable for.’” *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012). As the Court noted in *Samsung*, “Plaintiff has cited no decision, however, in which the Federal Circuit has *construed* ‘adapted to’ as encompassing mere capability, that is, the mere possibility of being appropriately configured.” *Samsung* at 72. *Samsung* similarly rejected Plaintiff’s reliance on the *Profectus* case (which Plaintiff cites again here) because “[i]n *Profectus*, the parties did not dispute whether ‘adapted to’ encompassed mere capability rather than actual configuration.” *Id.* at 73 (discussing *Profectus Tech., LLC v. Huawei Techs. Co., Ltd.*, No. 6:11-CV-474, 2014 WL 1575719, at \*8 (E.D. Tex. Apr. 17, 2014)).

The Federal Circuit’s subsequent decision in *Nevro*, cited by Plaintiff (Dkt. No. 114, at 29), does not compel otherwise. *Nevro Corp. v. Boston Scientific Corp.*, 955 F.3d 35 (Fed. Cir. 2020). In *Nevro*, the limitation at issue recited “a signal generator configured to generate a therapy signal having a frequency of 10 kHz, an amplitude up to 6 mA, and pluses [sic, pulses] having a pulse width between 30 microseconds and 35 microseconds.” *Id.* at 40. “[T]he district court determined that ‘configured to’ is susceptible to differing constructions, [and] it held the term render[ed] [claims] indefinite.” *Id.* at 41. The Federal Circuit vacated the indefiniteness finding and also

rejected a proposal to interpret “configured to” as meaning “designed to,” instead construing “configured to” as meaning “programmed to.” *Id.* at 41–42.

First, *Nevro* construed the term “configured to,” not “adapted to.” Second, *Nevro* did not suggest that mere capability would be sufficient. Based on at least these distinctions, *Nevro* is inapplicable to the dispute regarding “adapted to” in the above-captioned case. Plaintiff’s reliance on the statement in *Nevro* that “our construction of different claims in different patents is insufficient to overcome the plain language of the claims and the specification here” is also unavailing because Plaintiff fails to show that the patents-in-suit use “adapted to” to encompass mere capability. *Id.* at 42.

The *Audionics* case cited by Plaintiff in its reply brief (Dkt. No. 131, at 10) is also distinguishable because the analysis in *Audionics* relied on specific claim language, particular specification disclosures, and the court’s construction of another disputed term. *See Audionics Sys., Inc. v. AAMP of Fl., Inc.*, No. 2:12-CV-10763-MMM-JEM, 2015 WL 11182054, at \*10 (C.D. Cal. July 10, 2015) (Morrow, J.) (“Because the . . . patent makes no mention of firmware, and because the court has concluded that under the language of the claim, the device need not actually be programmed, but merely be capable of being programmed, the court declines to construe ‘adapted to’ in a manner that requires the claimed device to be configured by being programmed with firmware.”); *see also id.*, at \*8–\*11.

Plaintiff cites various portions of the specification, arguing that disclosures that use the word “capable” align with usage of the term “adapted to” in the claims. *Compare* ’284 Patent at 8:50–52 (“[O]nly the designated addressees will be capable to decrypt the message . . . .”) *with id.*, Cl. 8 (“said controller is further adapted to conduct encrypted communications”); *compare id.* at 11:31–35 (“A plurality of users may be served using wideband channels having the capability

to serve several users at once.”) & 11:33–35 (“channel 51 may be a wireless channel capable of communicating with several users using TDMA or FDMA or CDMA”) *with* ’312 Patent, Cl. 37 (“The system of claim 26 wherein each respective gateway is adapted to route data . . . using a multiple access technology.”); *compare* ’284 Patent at 11:35–36 (“Channel 52 may be an Internet connection capable of connecting to several destinations simultaneously.”) *with* ’312 Patent, Cl. 37 (“The system of claim 26 wherein each respective gateway is adapted to route data to the remote gateway from a plurality of mobile devices using a multiple access technology.”).

To whatever extent these cited disclosures might provide context for understanding the cited portions of the claims, the words of the disclosures cited by Plaintiff do not align sufficiently closely with the cited claim language to justify broadening the analysis and construction of “adapted to” as set forth in *Samsung*. *See Samsung* at 71–73. Further, even if the language aligned more precisely, the patentee chose to set forth the claims at issue by using the word “adapted to,” not merely “capable of.” *See Renishaw*, 158 F.3d at 1248 (“The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.”); *see also Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (“[I]n all aspects of claim construction, ‘the name of the game is the claim.’”) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)), *abrogated on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

Finally, Plaintiff argues that “[a] significant number of asserted claims—which use the phrase ‘adapted to’—are apparatus claims relating to the physical add-on base station or gateway,” and “[t]hey identify the operations that the device was designed to or can perform, not functions the device is necessarily *presently performing*.” (Dkt. No. 131, at 10.) Defendants’ proposal of requiring configuration, however, does not require present performance.

As to Defendants' proposal of "configured to *as opposed to mere capability to*," incorporating this negative limitation into a construction would potentially give rise to unnecessary confusion.

The Court therefore hereby construes "**adapted to**" to mean "**configured to**," and in adopting this construction the Court hereby expressly relies on its understanding, as set forth above, that "adapted to" does not encompass mere capability.

## V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

**SIGNED this 25th day of October, 2020.**



\_\_\_\_\_  
ROY S. PAYNE  
UNITED STATES MAGISTRATE JUDGE